Naval Weapons Industrial Reserve Plant-Northrop Grumman Groundwater Contaminant Plume

Bethpage, New York

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Issue: Extensive volatile organic compound groundwater contamination covers an area of roughly five square miles reaching depths of over 800 feet. The contamination has impacted several water districts downgradient of the facility. One water district, the Massapequa Water District, has not yet been impacted and along with other districts has been very vocal about the need to contain and treat the groundwater so that additional supply wells are not impacted. While a tremendous amount of work has been done at the Site, the water districts are not pleased with the fact that appropriate remedial systems are not in place to address this off-property contamination after so many years.

Site Description: The combined former Northrop Grumman (formerly Grumman Aerospace) and former Naval Weapons Industrial Reserve Plant Site Facility is situated on 605 acres. Approximately 105 of the 605 acres were occupied by the Naval Weapons Industrial Reserve Plant (NWIRP), a government - owned, contractor-operated facility. Activities conducted at the facility included engineering, administrative, research and development, and testing operations, as well as manufacturing operations for the Navy and the National Aeronautics and Space Administration (NASA). At one time, the facility also had an active airfield. Most of the former Grumman manufacturing properties has been sold, and 95 of the 105 acres of the former NWIRP facility have been transferred to Nassau County. Most of the Nassau County acreage has been sold at auction to a private developer.

Site Responsibility: This is a RCRA storage facility permitted under the federal Resource Conservation and Recovery Act (RCRA), although RCRA waste is no longer stored here. The New York State Department of Environmental Conservation's (NYSDEC) has the lead role in implementing the remediation at the Site. Both the Navy and Northrop Grumman are potentially responsible parties (PRPs). EPA has primarily played a support role to NYSDEC. In 2014, after hearing directly from several water districts that they were dissatisfied with the progress being made at the Site and felt their voices were not being heard, EPA initiated and facilitated quarterly meetings between the water districts, NYSDEC, the Navy and Grumman. The meetings gave the water districts an opportunity to be heard and to be involved in a regular dialogue with the key players at the Site. In 2017, NYSDEC assumed the lead role in coordinating these meetings; the meetings have been less frequent.

Status of Remediation: Numerous source control remedies have been implemented at the facility. On-Site containment and treatment system (ONCT) operations appear to be preventing remaining groundwater contamination from migrating beyond the facility boundaries. The PRPs are also required to implement a public water supply protection program. Under this program the installation of wellhead treatment has occurred at impacted municipal supply wells. Three additional treatment systems are expected to address hot spot areas of the off-property contamination: one is currently operating, a second is being constructed and a third is being designed. Efforts are currently focused on expediting the design of the third system which is intended to address a hot-spot (RE-108) furthest away from the

facility and which, in addition to requests to contain the leading edge of the plume, has been the focal point of concerns of the water districts. Obtaining property for this RE-108 hot-spot treatment system, and determining how to dispose of treated water are two critical design issues that will impact the implementation schedule. To make progress in addressing this hot-spot, the Navy proposed that an interim system be implemented to address a portion of this hot-spot.

In addition to these measures, the feasibility of containing the leading edge of the migrating groundwater is also under consideration. The water districts have been asking for the plume to be contained in its entirety for some time; they were not satisfied with the conclusions of two earlier reports that concluded full containment was not practicable. In December 2014, Governor Cuomo signed into Law Assembly Bill A09492/Senate Bill S07832, which directs the NYSDEC to issue a report outlining a plan to hydraulically contain and remediate the Navy Grumman plume of contaminated groundwater. The Law specifies that this report shall estimate the cost, scope, and timetable of such a project, and that this act shall take effect immediately. NYSDEC had a consultant prepare this evaluation on a limited budget and in a short time-frame. The results of the effort identified numerous issues that required further, more in depth evaluation. These included: disposition of the massive amounts of treated groundwater that would be generated, and the potential for significant drawdown of the aquifer and resultant impacts. The evaluation also indicated that it could cost $268 to $587M to contain and remove the contamination and would require treatment for up to 100 years.

In February 2017, NYSDEC announced that it would undertake a more comprehensive evaluation of full plume containment, including extensive modeling and mass flux (rate of contaminant mass flow per unit area) evaluation, and would also evaluate remediation alternatives as part of a Feasibility Study (FS). To maximize the mass flux or contaminant mass removal, NYSDEC is installing 4 extraction wells, 2 of which began in April 2018. The locations/screen intervals of the 4 extraction wells will be based on groundwater contaminant concentrations and aquifer properties. The 4 extraction wells are in addition to and, therefore, will not replace any of the Navy RE-108 hot spot wells. These 4 extraction wells and associated contaminant recovery and treatment will be incorporated into the remedy to be selected in the Record of Decision (ROD). In all, NYSDEC's plan is to construct 14 extraction wells around the perimeter of the contamination plus four aforementioned wells inside the boundaries at hot spots. The NYSDEC is currently reviewing a draft FS that was submitted on January 11, 2019. A draft Proposed Remedial Action Plan (PRAP) has been prepared and is currently being updated based on the recently submitted draft FS. The NYSDEC expects to finalize the FS and PRAP, start a 30-day public comment period, and hold a public meeting during the comment period in the near future, which will be followed by issuance of the ROD.

NYSDEC is also conducting a Natural Resource Damage (NRD) Assessment to quantify the damages to groundwater resources. NYSDEC will then bring a claim against the Navy and Northrop Grumman to fund projects to restore and protect groundwater on Long Island. NYSDEC expects to complete a draft NRD assessment by the end of 2019.

Congressman Suozzi held a second annual roundtable discussion meeting on May 4, 2018 focusing on how regulators and the Navy and Northrop Grumman can continue to work together to move investigation/cleanup process forward and finally clean up the Site. A front page of local newspaper Newsday edition of May 10, 2018 stated that the Bethpage Water District will be shutting down three water supply wells located in the plume area and will instead be drilling new clean water supply wells outside of the plume at a cost of $17 million to the district. Referencing this article, Congressman Suozzi sent a letter dated May 10, 2018 to the Secretary of the Navy to immediately consider acquiring the wells from the water district to perform extraction and treatment on site.

In the last three years, senior state officials have taken a heightened interest in the Site. NYSDEC Commissioner, the NYSDEC Deputy Commissioner for Materials Management and Remediation, and the Governor's office are in relatively frequent communication with the water districts and local elected officials. The NYSDEC technical project team members have all changed. The Deputy Commissioner now attends and chairs the quarterly coordination meetings, which have become less frequent.